

Supplemental Appendix:

Multiple Imputation Methods and Results

To examine and mitigate the impact of missing data, age-at-menopause was multiply imputed (with values constrained to fall between 30 and 60 years, or current attained age if younger than 60) for the sample of 1070 potentially postmenopausal women with missing age-at-menopause data. The multiple imputation models used truncated regression to predict age-at-menopause based on current age, race/ethnicity and estimated the imputed values separately for the subsample of women reporting surgical or medical menopause (i.e., a history of hysterectomy, oophorectomy, or other medical conditions or treatments leading to oligomenorrhea/amenorrhea).

Sensitivity analyses were conducted using the 10 multiply imputed data sets. Models presented in the main paper were replicated using the multiply imputed data sets for age-at-menopause for the sample of 1070 post-menopausal women (and 844 women with medical/surgical menopause) to mitigate the impact of missing data. Models using the 10 multiply imputed data sets were fit using the “mi” commands in Stata 12.1 SE as well as the survey procedures.

Results for models using the multiply imputed data sets were largely similar to those using the complete-case analysis. Although the association between LTL and age-at-menopause was no longer statistically significant among non-Hispanic white women ($b = 1.42$; 95% CI: $-0.18-3.01$, $p=0.079$) in the fully adjusted multiply imputed model, the association was in the same direction and of generally similar magnitude compared to the complete-case analysis. Additionally, this association remained significant in the multiply imputed model with only the race/ethnicity by LTL interaction term. All other patterns remained the same as in the main analysis. There was a statistically significant interaction between race/ethnicity and LTL, such that Mexican-American women were different than non-Hispanic white women ($p=0.008$); the linear combination of terms from this model suggested that the association between LTL and age-at-menopause among Mexican-American women remained negative and significant ($b = -5.54$; 95% CI: $-10.04 - -1.04$, $p=0.018$). Similar to findings from the main analysis, the linear combination of terms from the model suggested that there was no significant association between LTL and age-at-menopause among non-Hispanic black women ($b = 1.78$; 95% CI: $-2.15-5.71$, $p=0.360$). Finally, there were no associations between LTL and age-at-menopause among any racial/ethnic group in the falsification test models among women with surgical/medical menopause using the multiply imputed data ($n=844$).